

## ABSTRACT OF THE DISCLOSURE

### AUTOMATED SCALABLE AND ADAPTIVE SYSTEM FOR MEMORY ANALYSIS VIA IDENTIFICATION OF LEAK ROOT CANDIDATES

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A method for identifying a set of objects in a target application program comprises:  
receiving a plurality of samples of one or more object reference graphs, wherein each  
object reference graph comprises live objects and their references; deriving a plurality  
of data structures from the samples; determining a plurality of properties of each of the  
10 live objects in relation to data structures over time; combining the plurality of the  
properties of each live object; generating the object reference graph; generating a rank;  
and identifying suspicious regions that are likely to have leaks within the data  
structure. The method also comprises the identification of an initial set of highly-  
ranked candidate objects that are possible causes of at least one object leak, wherein  
15 the higher the ranking the smaller the identified set.

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